



# Analyzing Tallahassee's Historical Climate Data to Understand Climatic Trends

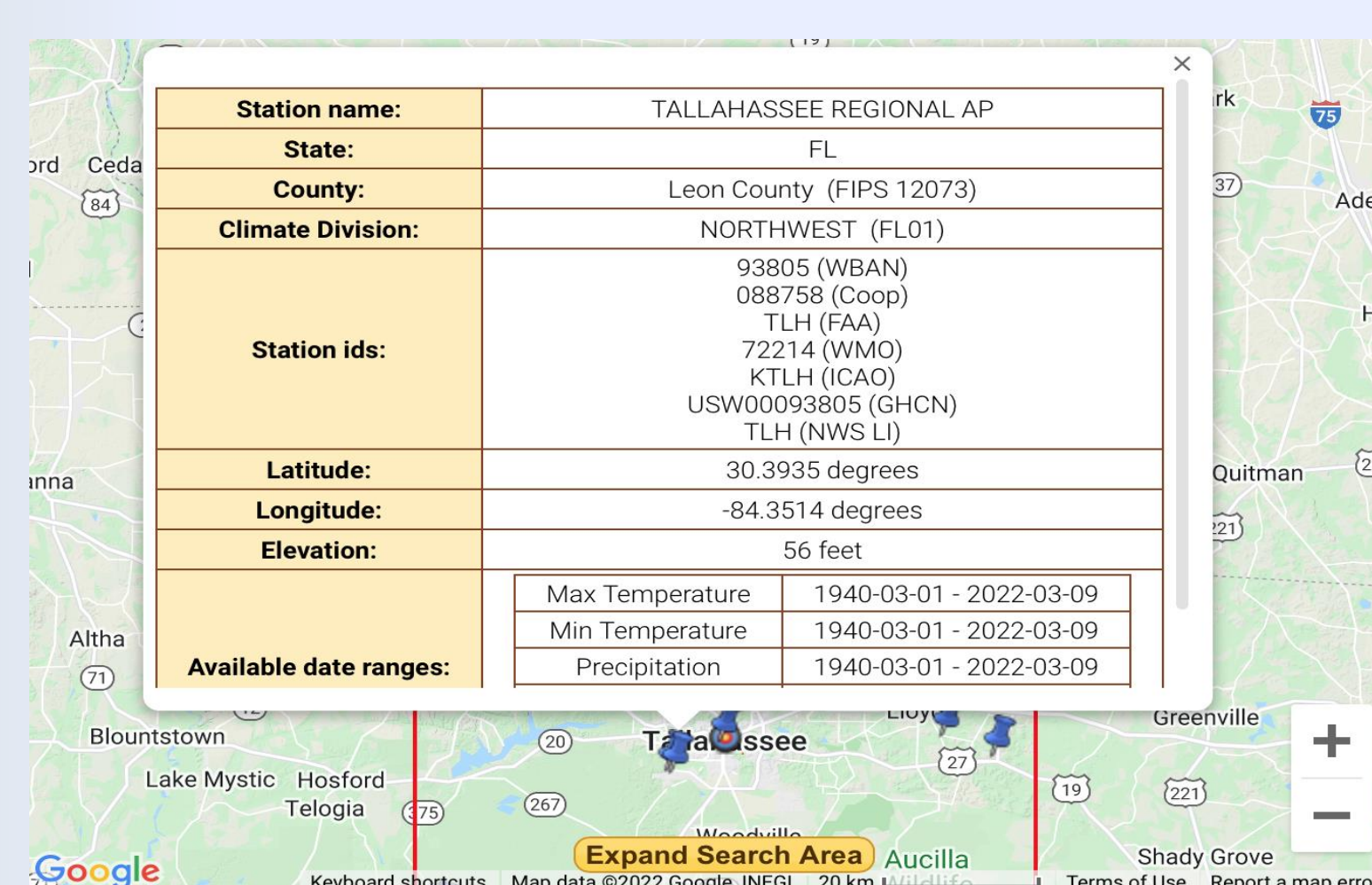
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## Introduction

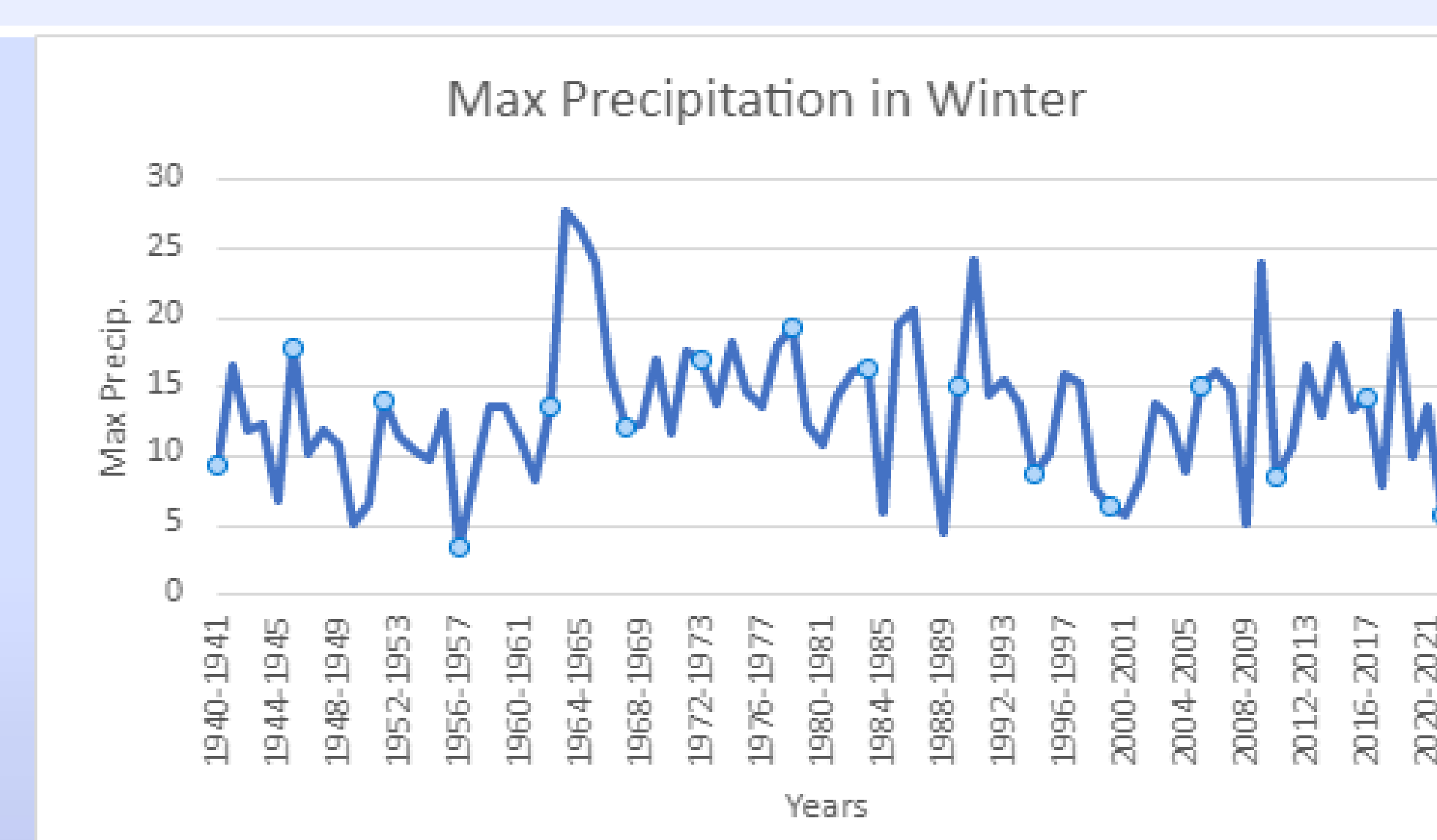
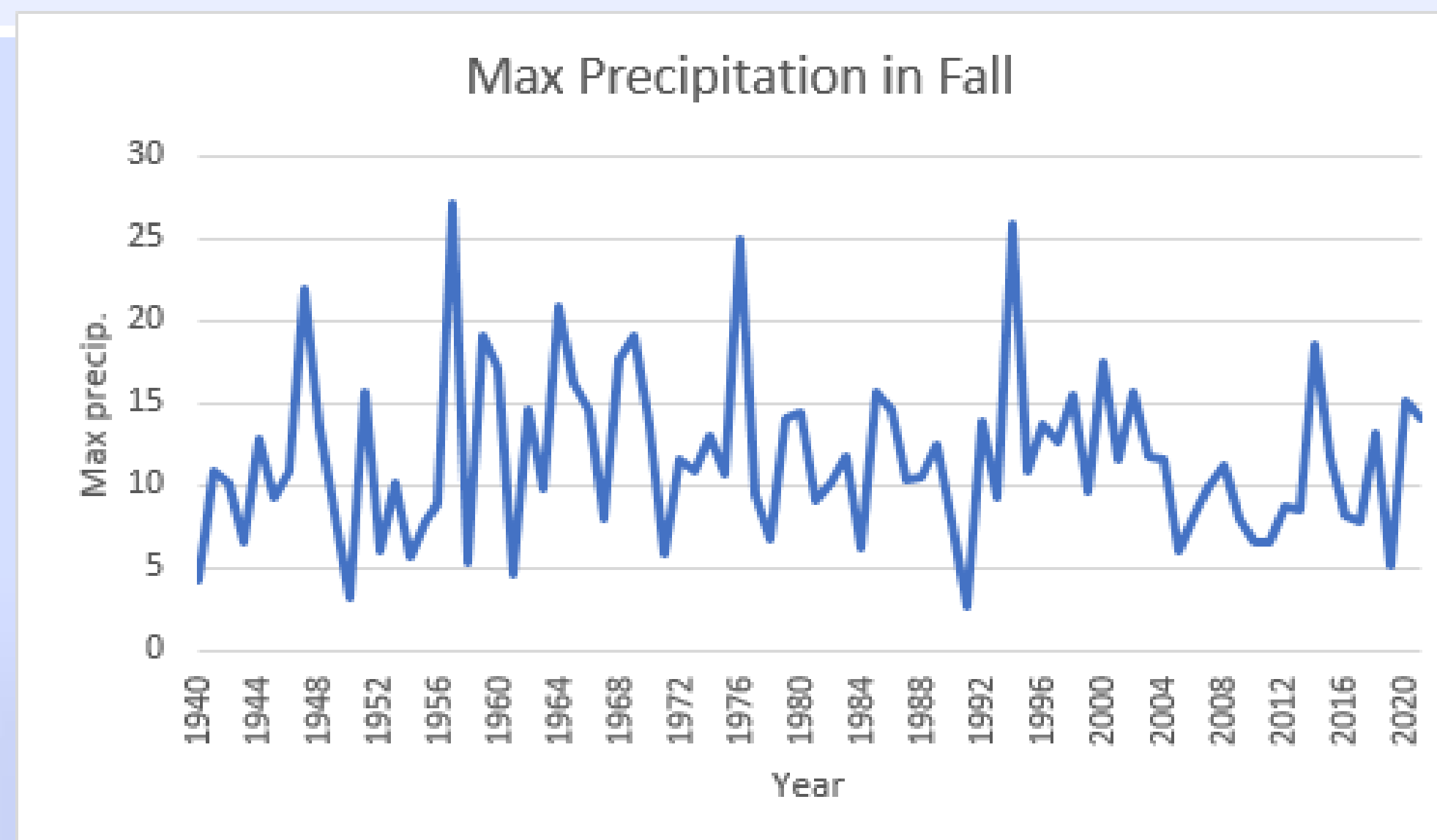
- Florida has large interannual variability in precipitation with distinct wet and dry seasons.
- However, changes in the frequency, duration, and/or magnitude of precipitation events are expected with ongoing climatic changes, which will have implications for drought occurrence, flood preparedness, and water management more broadly.
- Historical increases in precipitation have contributed a substantial fraction of the total flood damages in the U.S. (Davenport et al. 2021).
- Moreover, the frequency and intensity of extreme precipitation in Florida is projected to increase through the 21st century (Runkle et al. 2022), potentially increasing future flood damages. It is these changes in extremes that are expected to impact local communities the most.



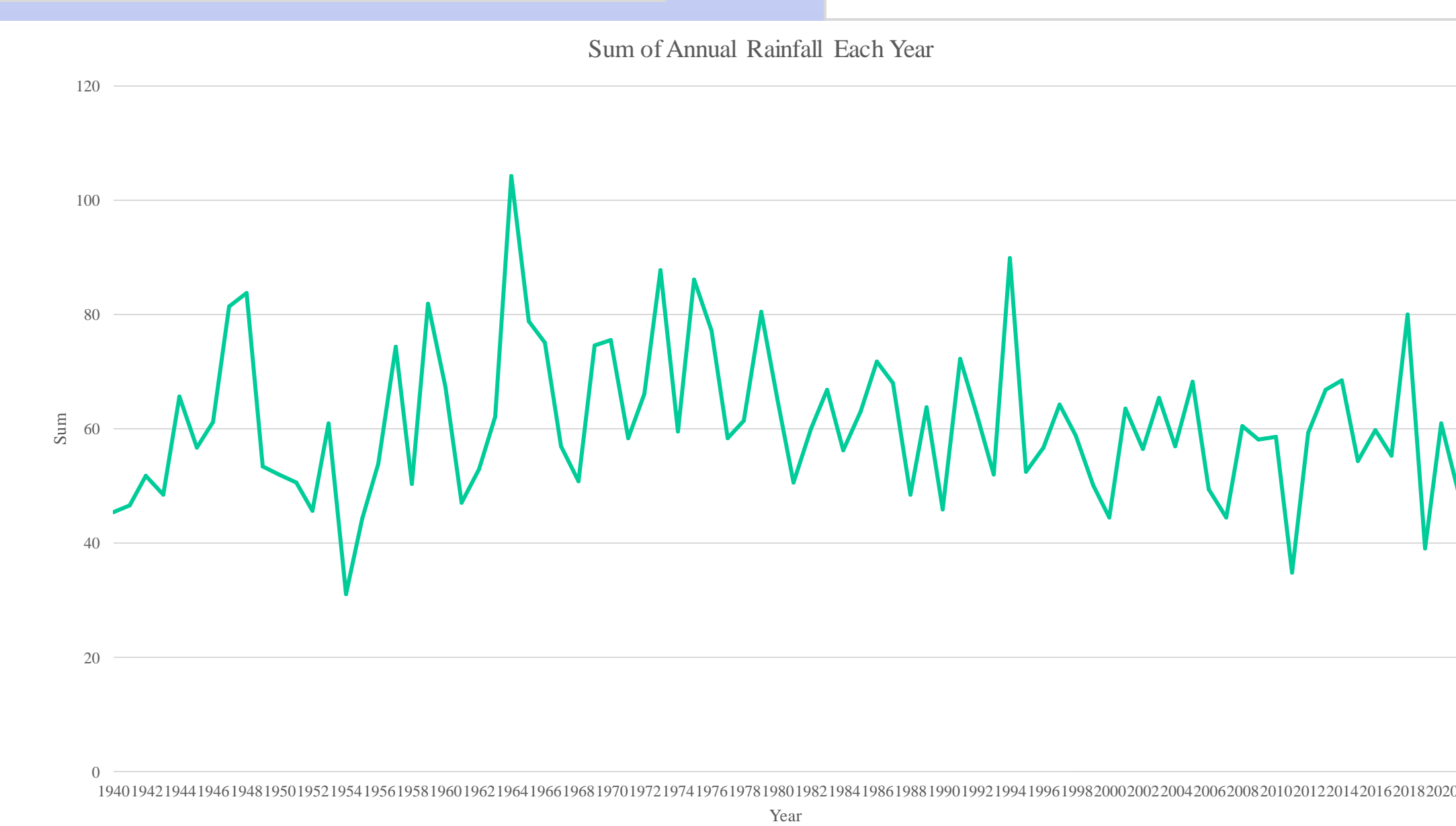
## Methods

This climate data analysis project will use climate station data to understand general trends and variability in key climate indicators for Tallahassee, Florida.

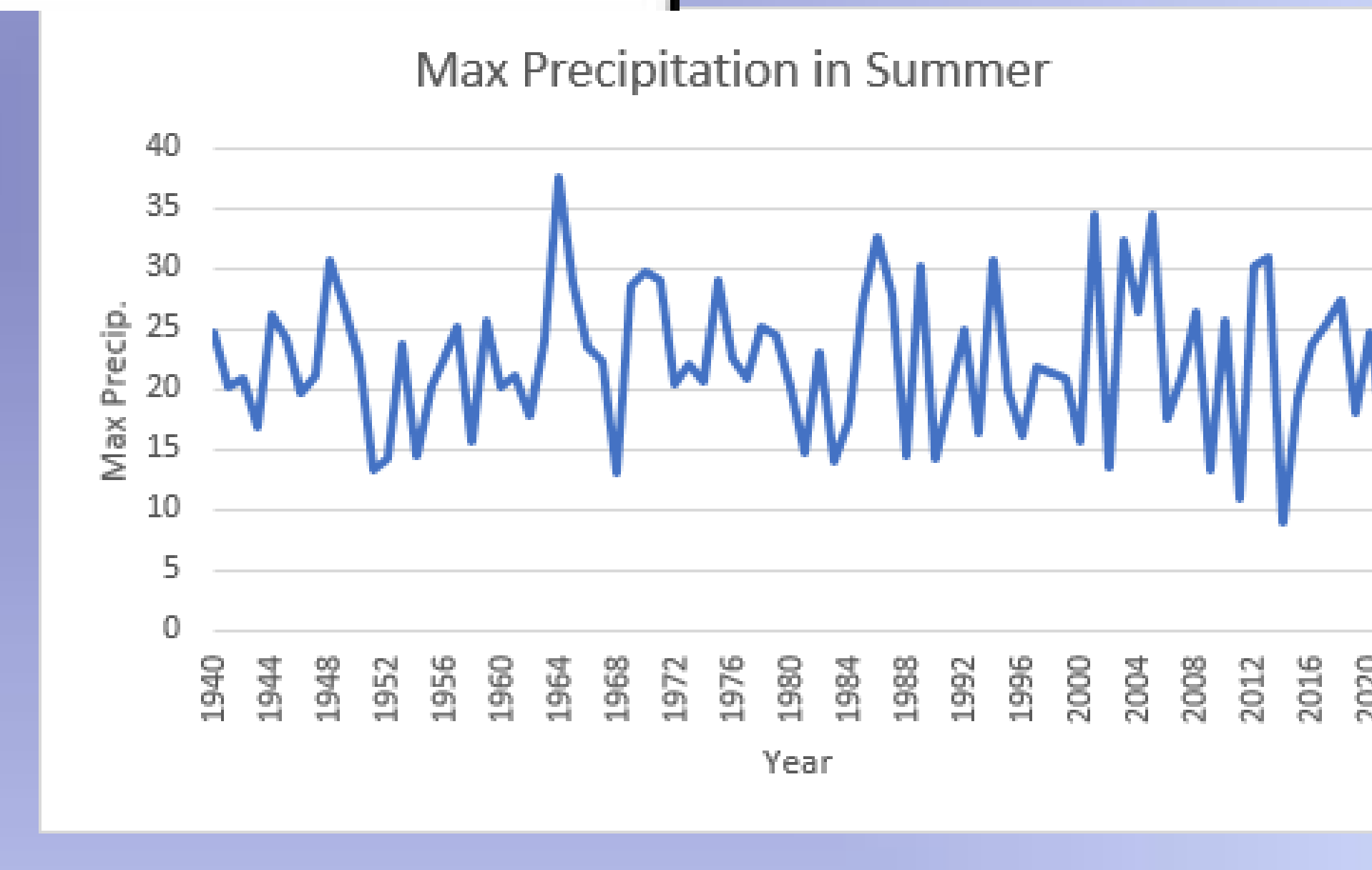
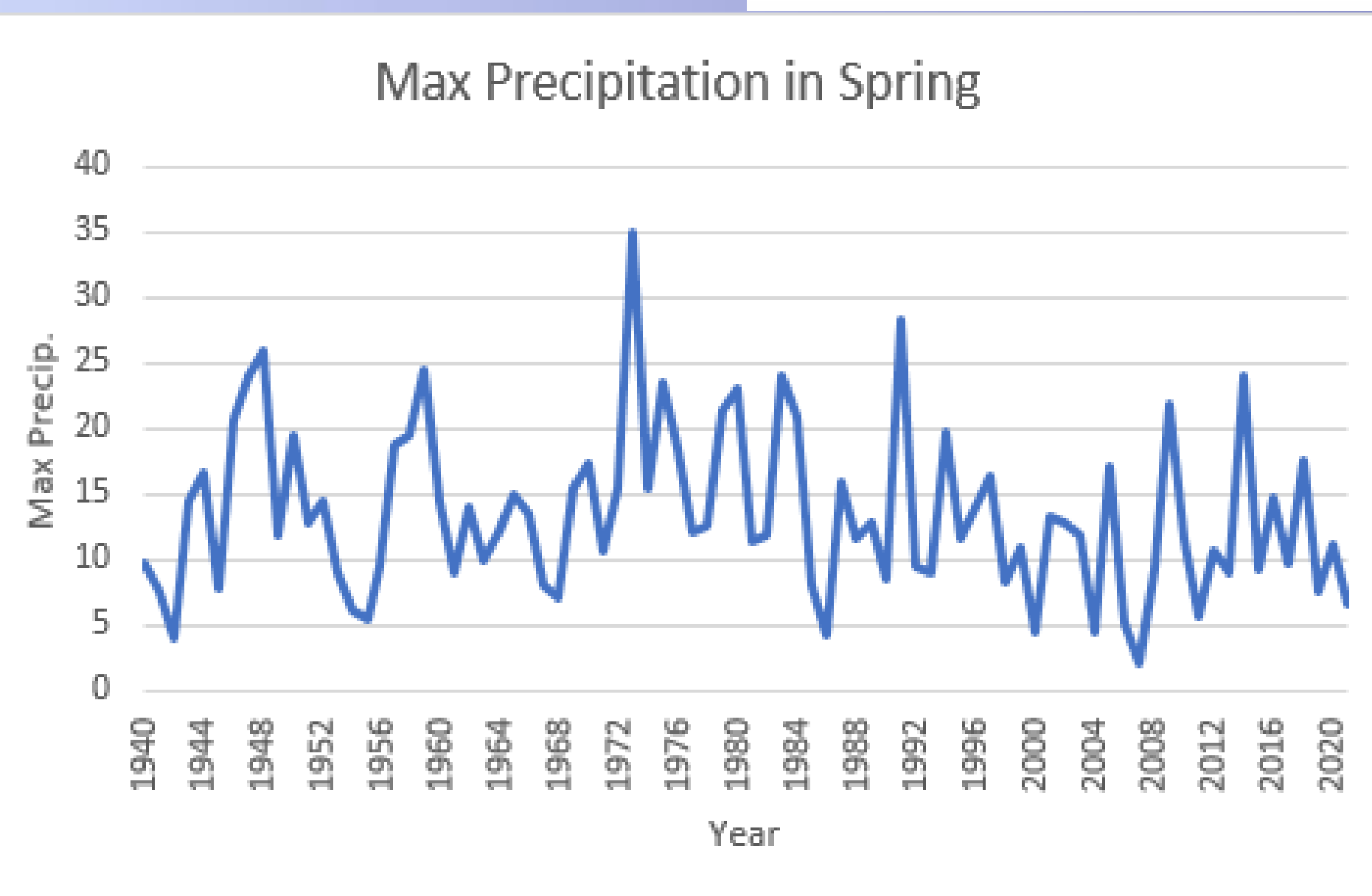
- The primary purpose of this data analysis project is to recognize climate station data and trend analysis through the development of plots, graphs, and statistical analysis. The analysis includes reading a csv file into excel. The csv file contains the climate data for the annual precipitation in Tallahassee.



Graphs represent the analysis for seasonal and annual precipitation in Tallahassee FL from 1940 to present.



This analysis reveals a huge change in Tallahassee's precipitation within a decade.



Description	Value
Slope	-0.03193
Intercept	124.0791
R-Squared	0.003348
Standard Deviation	13.20213
F-statistics	0.268714
Degrees of freedom	80
Regression SS	46.83588
Residuals SS	13943.7

Green Table shows the calculated statistics for annual rainfall analysis.

## Preliminary Findings

- Preliminary results show that annual precipitation in Tallahassee has decreased slightly over the period of record (1940-2021).
- Spring precipitation has decreased the most, while summer precipitation has not changed much since 1940.
- The analysis reveals limitations in detecting statistically significant precipitation trends when analyzing a single station. Including more stations in future analyses would help to identify any statistically significant changes in annual and seasonal precipitation across the region.

## Conclusion

- \* Understanding changes in precipitation is important for decision making and planning across many different sectors such as agriculture and recreation.
- \* Historical climate data helps identify changes in the performance of precipitation and is vital for future flood damages.

## References

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